DEPARTMENT OF TRANSPORTATION
DIVISION OF ENGINEERING SERVICES
Office of Structural Materials
Quality Assurance and Source Inspection

Bay Area Branch
690 Walnut Ave.St. 150
Vallejo, CA 94592-1133
(707) 649-5453
(707) 649-5493

Contract #: 04-0120F4
Cty: SF/ALA Rte: 80 PM: 13.2/13.9
File #: 99.28

WELDING INSPECTION REPORT

Resident Engineer: Casey, William
Address: 333 Burma Road
City: Oakland, CA 94607

Report No: WIR-027098
Date Inspected: 23-Jan-2012

Project Name: SAS Superstructure
Prime Contractor: American Bridge/Fluor Enterprises, a JV
Contractor: L & M Industrial Fabricators

OSM Arrival Time: 700
OSM Departure Time: 1530
Location: Tangent, Oregon

CWI Name:	Tom Dreyer	**CWI Present:**	☑ Yes ☐ No
Inspected CWI report:	☐ Yes ☑ No ☐ N/A	**Rod Oven in Use:**	☑ Yes ☐ No ☐ N/A
Electrode to specification:	☑ Yes ☐ No ☐ N/A	**Weld Procedures Followed:**	☑ Yes ☐ No ☐ N/A
Qualified Welders:	☑ Yes ☐ No ☐ N/A	**Verified Joint Fit-up:**	☑ Yes ☐ No ☐ N/A
Approved Drawings:	☑ Yes ☐ No ☐ N/A	**Approved WPS:**	☐ Yes ☑ No ☐ N/A
		Delayed / Cancelled:	☐ Yes ☑ No ☐ N/A

Bridge No: 34-0006
Component: Tower Head Parapet

Summary of Items Observed:

This Quality Assurance (QA) Inspector, Art Peterson arrived at L & M Industrial Fabricators between the times noted above to randomly observe Quality Control (QC) personnel monitor the welding operations performed by L & M personnel and the NDT inspection on the fabrication of chimney parapet walls to the Tower Head Top Plate. The following observations for the extra work being performed to the following contract change order were:

CCO: 196 - Description: Construct parapet walls at the Tower Heads

North Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder Otis Smith (Welder ID #19) performing the fill and cover pass weld operation on a complete-joint-penetration (CJP) corner-joint groove weld per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3G) vertical position connecting the parapet wall base plate-(A6a) to wall plate-(A6b) of the North Chimney Tower Head. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the fill pass weld operation that the minimum preheat temperature as per the approved WPS was established and afterwords verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with WPS-D1.5-FC-TC-U4b-GF using Hobart Excel Arc E71T-1 (.052") diameter electrode.

The WPS-D1.5-FC-TC-U4b-GF was submitted as an addendum to their WQCP ABF Submittal 2510, Rev. 2 to the Engineer for approval but has yet to be approved. This QA Inspector generated an Incident Report on January 12th, 2012 for the contractor proceeding with the welding operation without prior approval of the WQCP and/or

addendum's.

South Tower Chimney Parapet:

This QA Inspector randomly observed L & M welder Otis Smith (Welder ID #19) performing the fillet weld pass operation per the Flux Cored Arc Welding (FCAW-G) gas shielding process in the (3G) vertical position connecting the stiffener plates (A8e ~ A8i) to the internal side of parapet wall plate-(A8b) of the South Tower Chimney Head. This QA Inspector observed QC Inspector Tom Dreyer verify prior to the start of the root pass weld operation that the minimum preheat temperature as per the approved WPS was established and afterwords verified that the welding parameters (Amps, Volts and Travel Speed) were in accordance with WPS-D1. 5-FC-006-2F using Hobart Excel Arc E71T-1 (.052") diameter electrode.

The WPS-D1.5-FC-006-2F was submitted as an addendum to their WQCP ABF Submittal 2510, Rev. 3 to the Engineer for approval but has yet to be approved. This QA Inspector generated an Incident Report on January 12th, 2012 for the contractor proceeding with the welding operation without prior approval of the WQCP and/or addendum's.

South Tower Chimney Parapet:

This QA Inspector observed L & M Industrial Fabricators Quality Control (QC) NDT Inspector Troy Zuecher performing NDT Magnetic Particle Test (MT) inspection on the partial-joint penetration butt-joint groove weld connecting the base plate of the parapet wall to the South Chimney Tower Head top plate. This QA Inspector also observed NDT Inspector Troy Zuecher performing NDT Ultrasonic Test (UT) inspection on the complete-joint penetration (CJP) corner-joint groove weld. The NDT was performed in accordance with L & M Industrial Fabricator's Weld Quality Control Plan (WQCP) as ABF Submittal 2510 Rev. 1.

The weld joint numbers inspected and the QC Inspector's test results were:

A4a base plate PJP welded to South Tower Head Top Plate- (8) MT Linear and Transverse Indications detected.
A4a base plate CJP corner joint welded to A4b wall plate- (1) UT Transverse Indication detected.
A5a base plate PJP welded to South Tower Head Top Plate- (11) MT Linear and Transverse Indications detected.
A5a base plate CJP corner joint welded to A5b wall plate- (2) UT Transverse Indications detected.
A6a base plate PJP welded to South Tower Head Top Plate- No MT Linear or Transverse Indications detected.
A6a base plate CJP corner joint welded to A6b wall plate- (1) UT Transverse Indication detected.
A7a base plate PJP welded to South Tower Head Top Plate- No MT Linear or Transverse Indications detected.
A7a base plate CJP corner joint welded to A7b wall plate- No UT Linear or Transverse Indications detected.
A8a base plate PJP welded to South Tower Head Top Plate- (1) MT Transverse Indication detected.
A8a base plate CJP corner joint welded to A8b wall plate- No UT Linear or Transverse Indications detected.

WELDING INSPECTION REPORT

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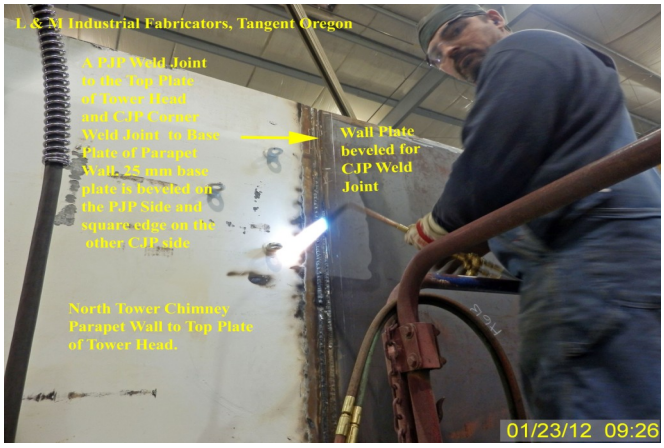

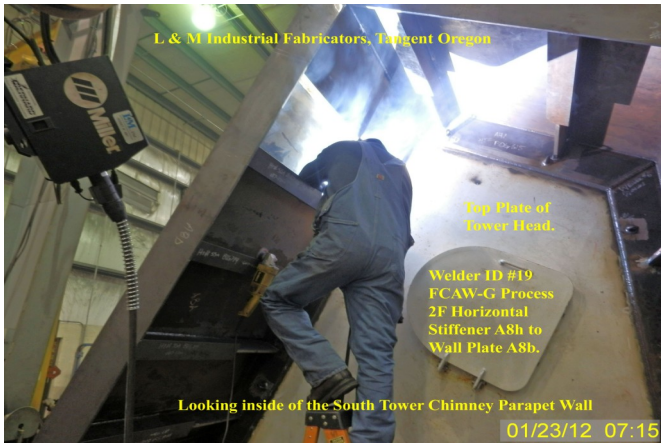

Summary of Conversations:

This QA Inspector was informed by CWI Inspector Tom Dreyer that L & M Industrial Fabricators will prepare a repair procedure to offer for approval on the MT Linear and Transverse Indications on the base plate PJP welded to the South Tower Head Top Plate. The UT Transverse Indications detected will be repaired using the repair procedure submitted under ABF Submittal 2510 Rev. / Addendum 3 on January 24th 2012.

Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Nina Choy, 510-385-5910, who represents the Office of Structural Materials for your project.

Inspected By:	Peterson,Art	Quality Assurance Inspector
Reviewed By:	Mertz,Robert	QA Reviewer